CENTER FOR PUBLIC ISSUES EDUCATION

IN AGRICULTURE AND NATURAL RESOURCES

Final Report

Floridians' Residential Fertilizer Behaviors, Attitudes, and Ordinance Awareness and Adherence

Karlibeth Leitheiser, Ricky W. Telg, and J. Bryan Unruh

UF IFAS UNIVERSITY of FLORIDA
Center for Public Issues Education in Agriculture and Natural Resources

PIE2024/25-7

For More Information

Contact the Center for Public Issues Education at piecenter@ifas.ufl.edu or 352-273-2598

Suggested Citation

Leitheiser, K., Telg, R.W., & Unruh, J.B. (2024). Floridians' Residential Fertilizer Behaviors, Attitudes, and Ordinance Awareness and Adherence. PIE2024/25-7. Gainesville, FL: University of Florida/IFAS Center for Public Issues Education.

About the Authors

Karlibeth Leitheiser – Education Specialist, UF/IFAS Center for Public Issues Education
Ricky Telg, Ph.D. – Director, UF/IFAS Center for Public Issues Education; Professor, Department of Agricultural Education and Communication
J. Bryan Unruh, Ph.D. – Professor, UF/IFAS West Florida Research and Education Center

Acknowledgments

Sandra Anderson – Research Coordinator, UF/IFAS Center for Public Issues Education
Michael Dukes, Ph.D. – Director, UF/IFAS Center for Land Use Efficiency; Associate Dean, UF/IFAS Extension

Table of Contents

List of Figures

List of Tables

Executive Summary

Floridians' Residential Fertilizer Behaviors, Attitudes, and Ordinance Awareness and Adherence
July 2024

Introduction

Floridians fertilize their landscapes with the goal of achieving green, healthy, and beautiful lawns. In Florida, there are more than 100 county and municipal ordinances regulating residential fertilizer application to certain times of the year; these restrictions often vary by area. Researchers at the University of Florida conducted a statewide survey of 929 Floridians to assess their behaviors and practices surrounding residential fertilizer application and to gauge their awareness of and adherence to residential fertilizer ordinances.

Findings

Researchers concluded the following findings based on survey data:

- Nearly half of all respondents fertilize their lawns themselves, with the remaining being split between hired help and homeowners association managed landscapes.
- Most respondents did not test their soil often and do not base their fertilizer application amount and frequency on soil test results.
- Respondents overwhelmingly determined how much and how often they applied fertilizer by reading the fertilizer package labeling and from recommendations from landscaping professionals.
- Respondents typically fertilize their lawns in March, April, and September.
- The most common type of fertilizer used was weed and feed, with dry, granulated fertilizer ranking second.
- Respondents report sourcing their fertilizer from home improvement stores at a much higher frequency, as compared to online retailers and garden centers.
- Fertilizer use behaviors were primarily motivated by fertilizer package directions and a personal obligation to meet lawn needs, rather than motivation through peers, friends, and family.
- Over half of the respondents were unaware if their property existed within a residential fertilizer ordinance area. Of those who were unaware or knew they were not under an ordinance, respondents were evenly undecided on whether to support the adoption of a future residential fertilizer ordinance.
- Respondents do not visit their local Extension office, but rank universities and Extension as highly trusted sources of fertilizer information. Additionally, respondents identified demonstrations, workshops, and short courses as ideal learning opportunities; all of which are provided at local Extension offices.

Recommendations

The following recommendations for research and practice are suggested:

- Extension professionals should develop and deliver fertilizer education programs, especially in counties and municipalities that have existing residential fertilizer ordinances.
- These Extension programs should emphasize the soil testing process and how test results impact fertilizer application amount and frequency.
- Community leaders, educators, and industry professionals in areas with local fertilizer ordinances should implement education campaigns to better inform the public on residential fertilizer ordinance guidelines.

Background

A collaborative effort of several UF/IFAS units, researchers sought to gauge Floridians' current behaviors and attitudes surrounding residential fertilizer use as well as the public's awareness and adherence to local fertilizer policies. Residential fertilizer ordinances govern fertilizer use, often prohibiting types of fertilizer used, placement, and timing of application. Residential fertilizer ordinances have been adopted in 35 counties and 97 additional municipalities.

The statewide survey was completed by 929 adult Florida residents. The screening process eliminated those who are not residents and those who do not have their lawns fertilized. Included in the study were individuals who fertilize their lawns themselves, hire out landscape labor, and are involved in the decision-making processes of applying fertilizer to their lawns.

The survey questioned respondents on homeowners association (HOA) involvement in the application of fertilizer, their current landscape conditions, their current fertilizer practices, their perception of current and future implementation of fertilizer best management practices, and their self-described awareness and adherence to local fertilizer ordinances. Findings from this study point to several knowledge gaps that can be addressed through education efforts and promoting information to the public.

Methods

Data were collected between February and March 2024. The population of interest was Florida homeowners aged 18 years or older and who had fertilized landscapes. A researcher-developed survey was distributed through a paid Qualtrics panel. Prior to distribution, the survey was reviewed for content validity by experts including UF/IFAS faculty specializing in turf grass science and soil nutrition, as well as an extension agent specializing in water resources. A pilot group of 10 Florida residents tested the relevancy and ease of questions prior to distribution. The survey was submitted to the University of Florida's Institutional Review Board and approved as exempt. Data analysis utilized descriptive statistics, including frequencies and percentages.

The online survey was distributed through a public opinion research company, Qualtrics, to Florida residents matching the criteria outlined in screening questions. Qualtrics recruits respondents through managed market research panels. To aid in the validity and quality of responses, Qualtrics employs screening techniques such as IP address checks and digital fingerprinting, and collaborated with panel partners who employ similar techniques in market research. Throughout the data collection process, researchers were in contact with a Qualtrics project manager to ensure quality and quantity control. 1,773 surveys were attempted, with 929 responses meeting the criteria as valid completes.

Results

About Respondents

The demographic information of respondents is displayed in Table 1.

A majority of respondents were white, female, and over 50 years of age. Most respondents own their homes and reside in urban or suburban areas.

Table 1. Demographic characteristics of respondents

Variable	*n* (%)
Gender	
Male	344 (37.0)
Female	585 (63.0)
Age	
18 to 19	4 (0.4)
20 to 29	37 (4.0)
30 to 39	68 (20.5)
40 to 49	80 (8.6)
50 to 59	114 (12.3)
60 to 69	268 (28.8)
70 to 79	290 (31.2)
80 or older	68 (7.3)
Race	
White	795 (85.6)
Black	78 (8.4)
Asian	8 (0.9)
American Indian	9 (1.0)
Multi-racial	26 (2.8)
Other	13 (1.4)
Ethnicity	
Hispanic/Latino(a)/Chicano(a)	58 (6.2)
Not Hispanic/Latino(a)/Chicano(a)	871 (93.8)
Highest level of education completed	
Less than high school	17 (1.8)
High school/GED	181 (19.5)
Some college	201 (21.6)
2-year college degree	152 (16.4)
4-year college degree	236 (25.4)
Masters degree	114 (12.3)
Doctoral degree	10 (1.1)
Professional degree (JD, MD)	18 (1.9)

Variable	*n* (%)
Employment status	
Employed full time	203 (21.9)
Employed part time	67 (7.2)
Self-employed	63 (6.8)
Unemployed	59 (6.4)
Student	11 (1.2)
Retired	510 (54.9)
None of the above	16 (0.2)
Home ownership	
Own	774 (83.3)
Rent	142 (15.3)
Other	13 (1.4)
Location of residence	
A farm in a rural area	15 (1.6)
Rural area, not a farm	112 (12.1)
Urban or suburban area outside city limits	448 (48.2)
Subdivision in a town or city	325 (35.0)
Downtown area in a city or town	29 (3.1)
Type of residence	
Single-family house with irrigated landscape	510 (54.9)
Single-family house without irrigated landscape	259 (27.9)
Multi-family house	135 (14.5)
Other	25 (2.7)
Political beliefs	
Very liberal	66 (7.1)
Liberal	118 (12.7)
Moderate	365 (39.3)
Conservative	285 (30.7)
Very Conservative	95 (10.2)
Political affiliation	
Republican	394 (42.4)
Democrat	267 (28.7)
Independent	207 (22.3)
Non affiliated	51 (5.5)
Other	10 (1.1)

Mode of Fertilization and HOA Involvement

As part of the initial screening, respondents were questioned on how they fertilize their lawns. Nearly half of respondents fertilize their lawns themselves, and the remaining respondents hire out labor, have someone else fertilize while they are involved in decision-making, or their lawn fertilization is provided by their HOA.

Table 2. Respondents' mode of fertilization

Variable	*n* (%)
Self-fertilized	434 (46.7)

Variable	*n* (%)
Someone else fertilizes, involved in decision making	109 (11.7)
Hired landscaper fertilizes	175 (18.8)
HOA manages fertilizer	165 (17.8)
Multiple methods	46 (5.0)

Respondents were split almost evenly between those who were part of a HOA (*n* = 447) and those who were not (*n* = 453). Of those living in a HOA , 73.4% reported having policies related to landscaping. Of the HOA group, 41.2% (*n* = 184) reported their HOA hires a landscaping company to apply fertilizer.

Table 3. HOA involvement

Variable	*n* (%)
Property is part of a HOA	
Yes	447 (48.1)
No	453 (48.8)
Unsure	29 (3.1)
HOA has policies related to landscaping (n = 447)	
Yes	328 (73.4)
No	73 (16.3)
Unsure	46 (10.3)
HOA imposes penalties for the appearance of landscapes	
Yes	306 (68.5)
No	74 (16.6)
Unsure	67 (15.0)
HOA manages homeowners' landscapes	
Yes	226 (50.6)
No	196 (43.8)
Unsure	25 (5.6)
HOA hires a landscape company to apply fertilizer	
Yes	184 (41.2)
No	228 (51.0)
Unsure	35 (7.8)
Frequency of fertilizing by HOA hired company (n = 184)	
Monthly	34 (18.5)
Quarterly	45 (24.5)
Semi-annually	22 (11.9)
Annually	10 (5.4)
As need upon request	16 (8.7)
Unaware of HOA's fertilizer application schedule	57 (31.0)

Current Landscape Condition

To gauge respondents' current landscape condition, respondents were asked whether they were satisfied with the condition of their landscape. Roughly two-thirds of the 929-person sample reported they were satisfied with their

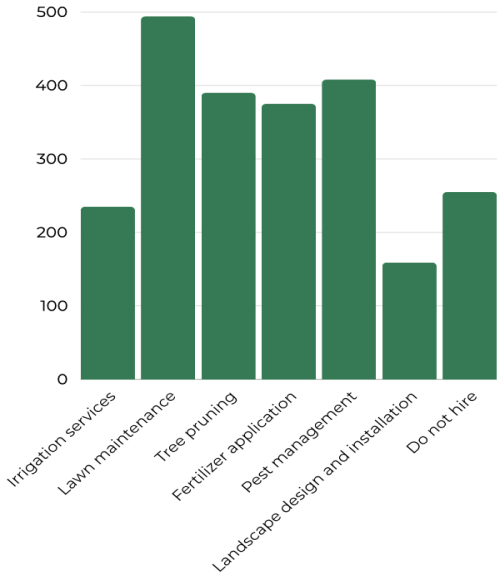
landscape condition. Most respondents reside on less than half an acre (67.9%, *n* = 631), 23.3% (*n* = 216) reside on a half to a full acre, and 8.8% (*n* = 82) have a home lot greater than one acre.

Table 4. Respondents' landscape condition

Variable	*n* (%)
Satisfied with current landscape condition	
Yes	617 (66.4)
No	312 (33.6)

Respondents were asked to select all of the landscaping services they hire for, often selecting multiple choice. Lawn maintenance, referring to mowing and trimming, had the highest frequency among respondents (*n* = 494). Pest management (*n* = 408), tree pruning (*n* = 390), and fertilizer application (*n* = 375) followed. A frequency of 255 respondents reported not hiring any landscaping services.

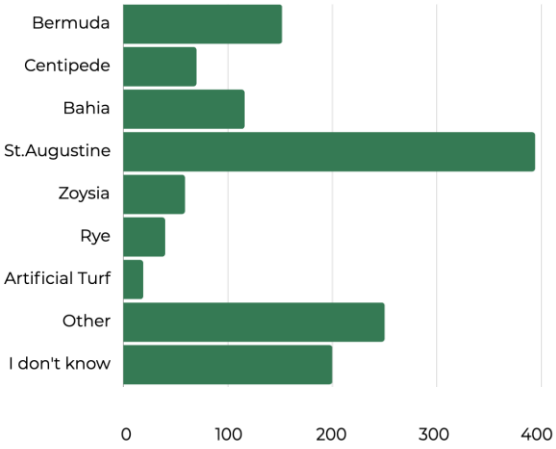
Figure 1. Types of landscape services hired



Lawncare Practices

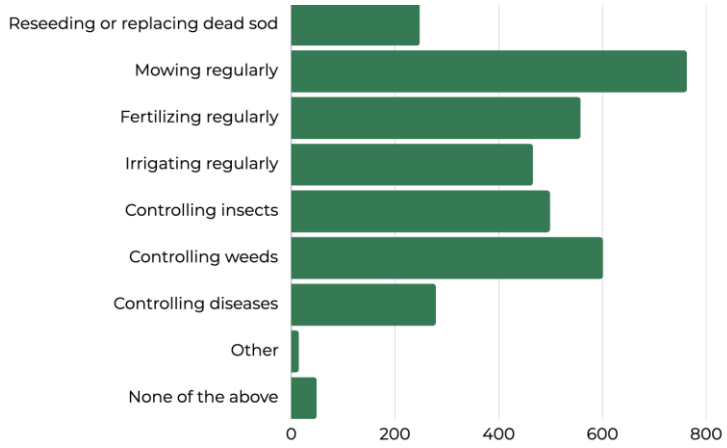
When asked whether respondents had new sod installed within the last two years, 31.9% had and 68.1% had not. In terms of the types of grass growing on their landscapes, respondents were able to select multiple varieties to match the makeup of their lawns. St. Augustine grass had the highest frequency (*n* = 394). "I don't know" had the second highest frequency, meaning many respondents did not know of the grass varieties growing on their landscapes.

Figure 2. Types of grass in landscape



When asked to select which lawncare practices they utilize to maintain a green and healthy lawn, mowing regularly ranked highest (*n* = 763). Controlling weeds (*n* = 601) and fertilizing regularly (*n* = 558) ranked second and third, respectively. Respondents were able to select multiple answers.

Figure 3. Practices utilized to maintain lawn health



Respondents were questioned on the frequency of mowing and the height of grass on their lawns during the summer months. Most respondents have their lawns mowed four times a month (36.1%) and twice a month (28.6%). Lawns are typically mowed to 2-3 inches (45.5%) with 1-2 inches ranking second at 26.7%. Most respondents (52%) reported their lawn clippings are left on the lawn, and 24.8% remove clippings as waste.

Table 5. Mowing practices

Variable	*n* (%)
Frequency of mowing during summer months (May-Sep)	
Less than once a month	47 (5.1)
Once a month	73 (7.9)
Twice per month	266 (28.6)
3 times per month	132 (14.2)
4 times per month	335 (36.1)
More than 4 times per month	48 (5.2)
Unsure	16 (1.7)
Lawn is not mowed	12 (1.3)

Variable	*n* (%)
Height of lawn during summer months (May-Sep)	
1-2 inches	248 (26.7)
2-3 inches	423 (45.5)
3-4 inches	140 (15.1)
4 or more inches	27 (2.9)
Unsure	91 (9.8)
Status of clippings after mowing	
Left on lawn	488 (52.5)
Placed in compost	126 (13.6)
Removed as waste	230 (24.8)
Other	36 (3.9)
Unsure	49 (5.3)

Current Fertilizer Use

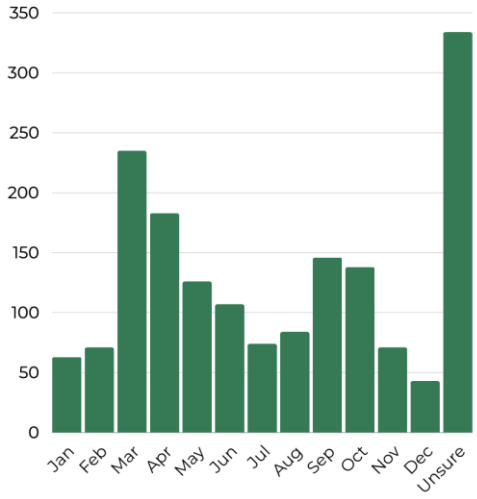
Almost two-thirds of respondents reported that they had not had their soil tested in the last 12 months (65.2%), and an additional 19.6% were unsure. Beyond the past 12 months, respondents were asked to report the frequency of soil testing over time. Again, most respondents indicated their soil was not tested regularly (41.4%) or were unsure of the frequency (32.3%). Of those who do test regularly, 10.1% test once a year, and 8.2% test every two to three years.

Table 6. Soil testing

Variable	*n* (%)
Soil test performed in the last 12 months	
Yes	141 (15.2)
No	606 (65.2)
Unsure	182 (19.6)
Frequency of soil testing	
Several times a year	34 (3.6)
Once a year	94 (10.1)
Every 2-3 years	76 (8.2)
Every 3-4 years	20 (2.2)
5 years or more	21 (2.3)
Not tested regularly	385 (41.4)
Unsure	299 (32.2)

Respondents were asked to identify the months out of the year in which fertilizer is applied to their lawns. “Unsure” ranked the highest (*n* = 334). Outside of those who are unsure, most respondents fertilize their lawns in March (*n* = 235), April (*n* = 183), and September (*n* = 146).

Figure 4. Months when lawn is typically fertilized



In terms of the types of fertilizer respondents used, weed and feed was the most popular choice (*n* = 362). Dry, granulated fertilizer was the second most selected type (*n* = 336). A majority of respondents, 60.8% (*n* = 565), reported purchasing their own fertilizer. Respondents who purchase their own fertilizer were asked to select where they source their fertilizer from and were allowed to select multiple options. A majority selected home improvement stores as their primary source of fertilizer (*n* = 471).

To determine the motivations behind the amount of fertilizer applied, respondents were asked to select one or more factors that contribute to their decision-making. Most respondents cite fertilizer package directions (*n* = 389) and landscape company recommendations (*n* = 371).

Figure 5. Fertilizer amount determination

Respondents were provided with a variety of prompts focused on their fertilizer application behaviors, with answer selection on a Likert scale including never, rarely, sometimes, often, always, and not applicable. Not applicable, or N/A, was included for respondents who may not be directly involved in parts of the application process or for respondents who did not relate to the prompt. Table 7 displays the frequencies and percentages for each prompt and answer selection.

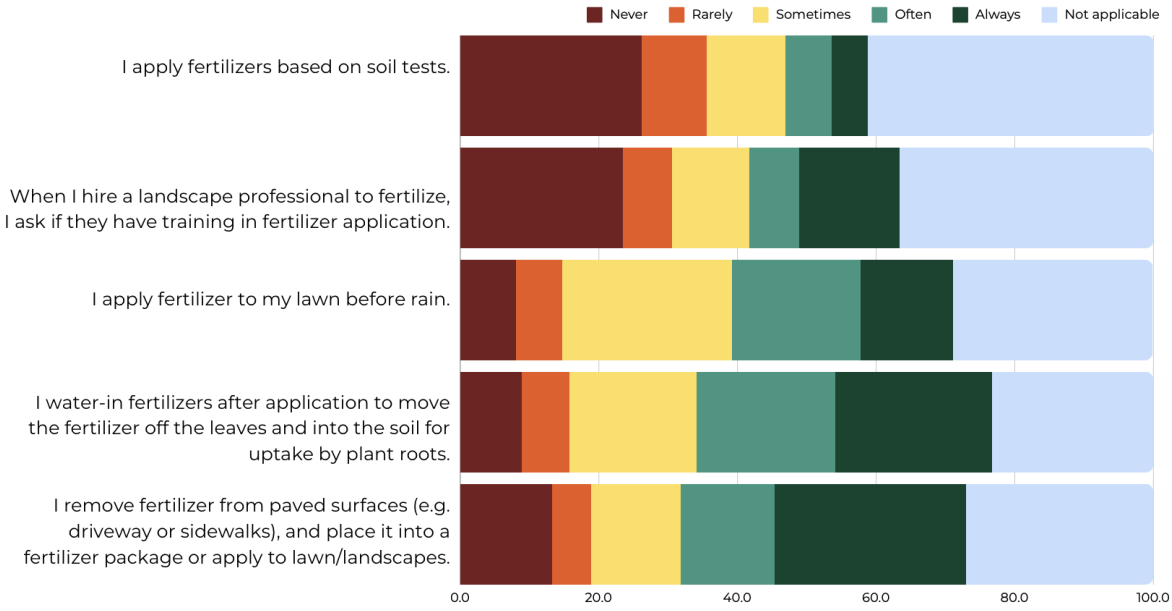
Many respondents elected "never" or "rarely" for the first prompt, indicating respondents not applying fertilizers based on soil test results. An additional 41.3% selected "not applicable," indicating they do not soil test at all, do not take soil tests into consideration, or have someone else involved in their fertilizer decision making.

Table 7. Fertilizer application behaviors

Prompt	Never	Rarely	Sometimes	Often	Always	N/A
I apply fertilizers based on soil test results.	243 26.2%	87 9.4%	105 11.3%	62 6.7%	48 5.2%	384 41.3%
When I hire a landscape professional to fertilize, I ask if they have training in fertilizer application.	218 23.5%	66 7.1%	103 11.1%	67 7.2%	135 14.5%	340 36.6%
I apply fertilizer to my lawn before rain.	74 8.0%	62 6.7%	228 24.5%	173 18.6%	124 13.3%	268 28.8%
I water-in fertilizers after application to move the fertilizer off the leaves and into the soil for uptake by plant roots.	83 8.9%	64 6.9%	170 18.3%	186 20.0%	210 22.6%	216 23.3%
I remove fertilizer from paved surfaces (e.g. driveway or sidewalks), and place it into a fertilizer package or apply to lawn/landscapes.	123 13.2%	53 5.7%	120 12.9%	126 13.6%	256 27.6%	251 27.0%

Figure 6 displays the information from Table 7 as a color-coded bar graph to indicate the frequencies of answers for each prompt.

Figure 6. Fertilizer application behaviors



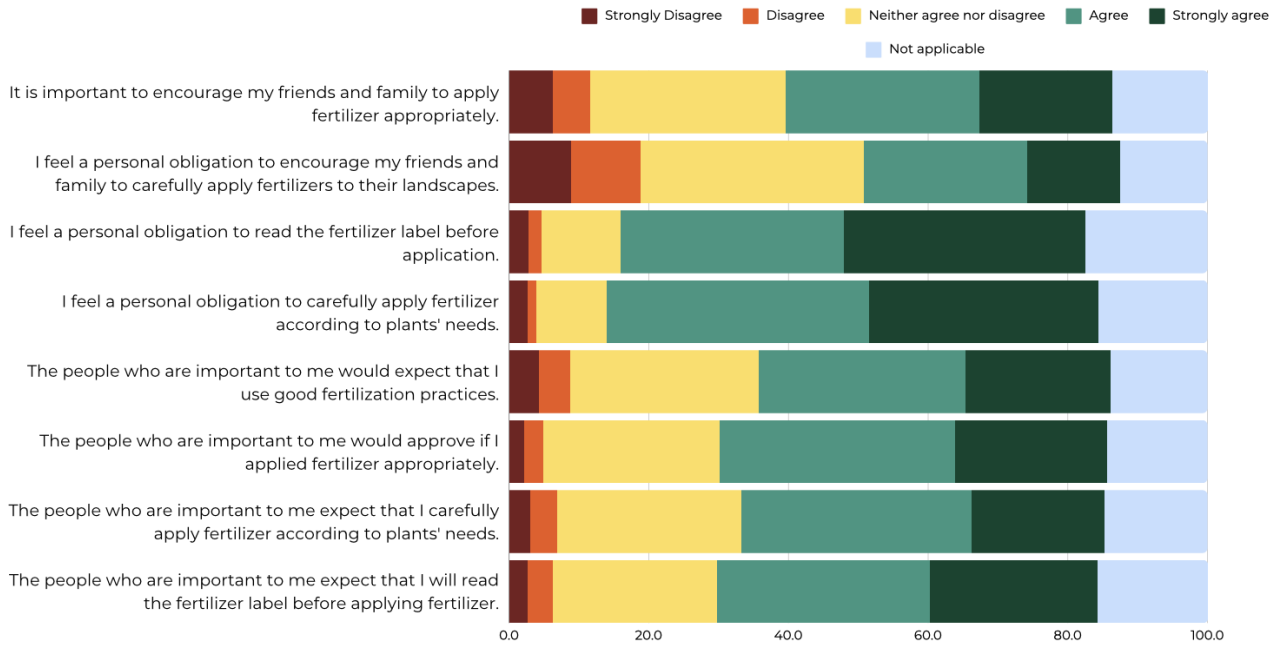
Perception of Fertilizer Best Management Practices

Respondents feel the most personal obligation in following best management practices when it comes to reading the fertilizer label and applying fertilizer according to plant needs. Respondents feel the least personal obligation to encourage family and friends to apply fertilizer carefully. See Table 8 and Figure 7 for frequencies and percentages corresponding to each prompt.

Table 8. Perceptions of fertilizer behaviors

Prompt	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	N/A
It is important to encourage my friends and family to apply fertilizer appropriately.	58 6.2%	50 5.4%	260 28.0%	257 27.7%	177 19.1%	127 13.7%
I feel a personal obligation to encourage my friends and family to carefully apply fertilizers to their landscapes.	83 8.9%	92 9.9%	297 32.0%	217 23.4%	124 13.3%	116 12.5%
I feel a personal obligation to read the fertilizer label before application.	26 2.8%	17 1.8%	105 11.3%	297 32.0%	321 34.6%	163 17.5%
I feel a personal obligation to carefully apply fertilizer according to plants' needs.	24 2.6%	12 1.3%	94 10.1%	349 37.6%	305 32.8%	145 15.6%
The people who are important to me would expect that I use good fertilization practices.	40 4.3%	41 4.4%	252 27.1%	275 29.6%	192 20.7%	129 13.9%
The people who are important to me would approve if I applied fertilizer appropriately.	20 2.2%	25 2.7%	234 25.2%	314 33.8%	202 21.7%	134 14.4%
The people who are important to me expect that I carefully apply fertilizer according to plants' needs.	28 3.0%	36 3.9%	244 26.3%	307 33.0%	177 19.1%	137 14.7%
The people who are important to me expect that I will read the fertilizer label before applying fertilizer.	25 2.7%	33 3.6%	218 23.9%	283 30.5%	222 23.9%	148 15.9%

Figure 7. Perception of fertilizer behaviors



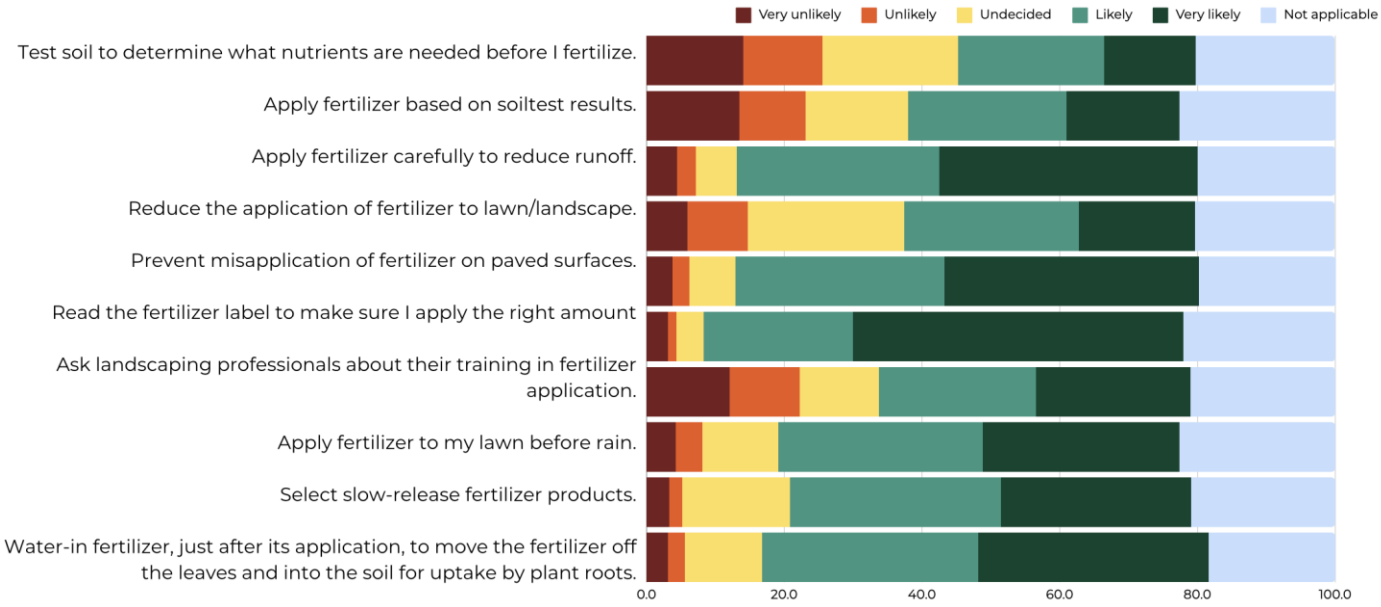
Future Fertilizer Use

When asked about their future intention to follow best management practices, respondents expressed significant emphasis on reading the fertilizer package labeling to apply the right amount and applying fertilizer carefully to reduce runoff. Respondents were least likely to ask their landscaping professional about their training, as well as testing their soil prior to fertilizing. This data is displayed in Table 9 and Figure 8.

Table 9. Perception of future fertilizer behaviors

Prompt	Very unlikely	Unlikely	Undecided	Likely	Very likely	N/A
Test soil to determine what nutrients are needed before I fertilize.	130 14.0%	107 11.5%	183 19.7%	197 21.2%	124 13.3%	188 20.2%
Apply fertilizer based on soil test results.	125 13.5%	89 9.6%	138 14.9%	214 23.0%	152 16.4%	211 22.7%
Apply fertilizer carefully to reduce runoff.	41 4.4%	26 2.8%	55 5.9%	273 29.4%	248 27.5%	186 20.0
Reduce the application of fertilizer to lawn/landscape.	55 5.9%	82 8.8%	211 22.7%	236 25.4%	156 16.8%	189 20.3%
Prevent misapplication of fertilizer on paved surfaces.	35 3.8%	22 2.4%	62 6.7%	282 30.4%	343 36.9%	185 19.9%
Read the fertilizer label to make sure I apply the right amount.	29 3.1%	11 1.2%	37 4.0%	202 21.7%	445 47.9%	205 22.1%
Ask landscaping professionals about their training in fertilizer application.	112 12.1%	94 10.1%	107 11.5%	212 22.8%	209 22.5%	195 21.0%
Apply fertilizer to my lawn before rain.	39 4.2%	36 3.9%	102 11.0%	276 29.7%	266 28.6%	210 22.6%
Select slow-release fertilizer products.	31 3.3%	18 1.9%	145 15.6%	285 30.7%	256 27.6%	194 20.9%
Water-in fertilizer, just after its application, to move the fertilizer off the leaves and into the soil for uptake by plant roots.	29 3.1%	23 2.5%	104 11.2%	292 31.4%	310 33.4%	171 18.4%

Figure 8. Perception of future fertilizer behaviors



Fertilizer Ordinance Awareness and Adherence

Respondents were asked if they were aware of a fertilizer ordinance in their area that outlines policies on fertilizer use for their lawn. A majority of respondents were unsure if they resided within the limits of a residential fertilizer ordinance, making up 60.6% (*n* = 563) of responses. Of the remaining respondents, 22.9% (*n* = 213) selected "yes" and 16.5% (*n* = 153) selected "no." Those who selected "no" and "unsure" (*n* = 716) were provided with an additional question. This group was asked if they would support the future adoption of a residential fertilizer ordinance, with 42.6% reporting they were unsure, 41.3% selecting "yes" and 16.1% selecting "no."

Table 10. Ordinance awareness and adoption

Variable	*n* (%)
Awareness of residential fertilizer ordinance (n=929)	
Yes	213 (22.9)
No	153 (16.5)
Unsure	563 (60.6)
Support of future ordinance adoption (n=716)	
Yes	295 (41.3)
No	115 (16.1)
Unsure	304 (42.6)

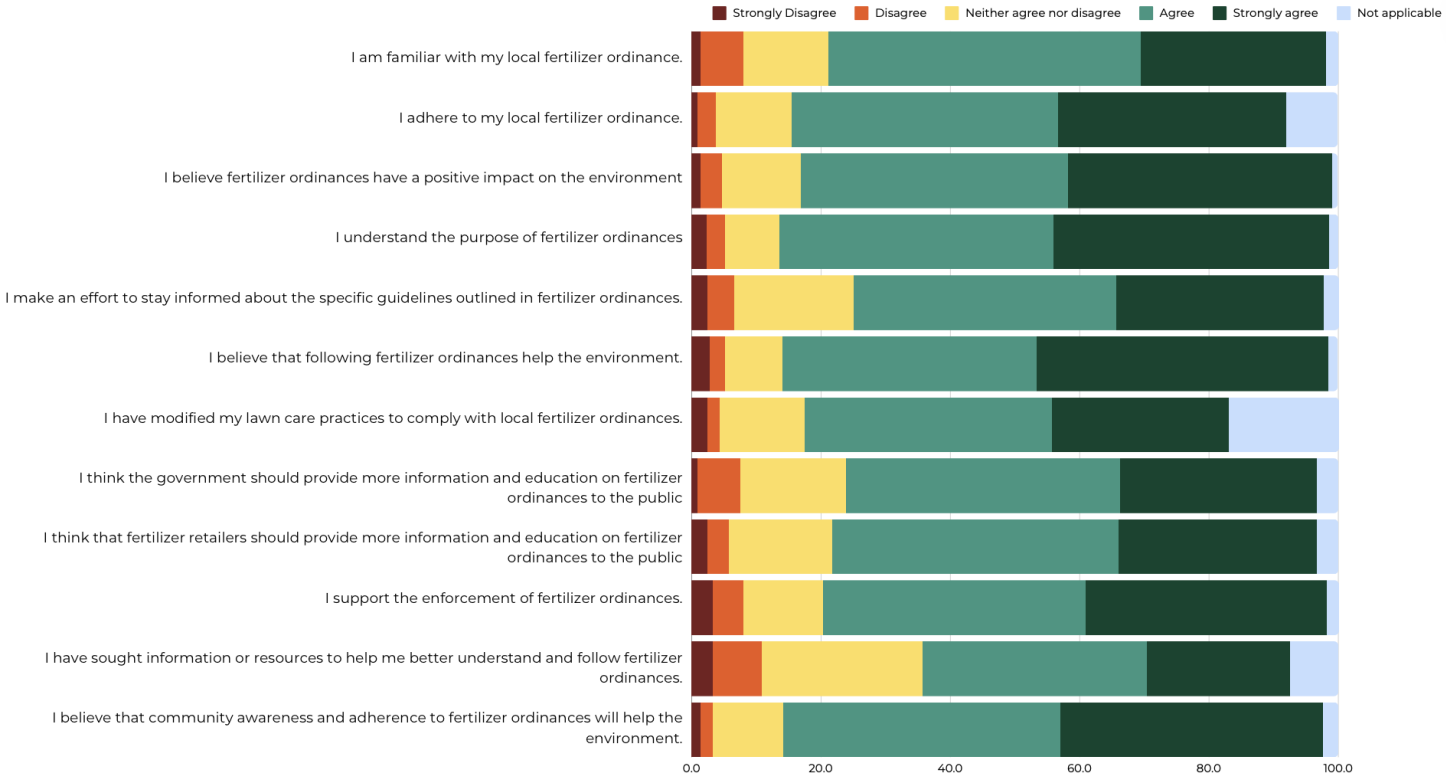
The group of respondents who selected "yes" to being aware of a residential fertilizer ordinance (*n* = 213) was further questioned on their self-perceived levels of awareness and adherence to the ordinance. Overall, respondents had positive views towards their ordinance. Most respondents agreed that following ordinances benefits the environment and that they have adhered to the policies outlined for fertilizer use. These data are displayed through Table 11 and Figure 9.

Table 11. Self-reported awareness and adherence

Prompt	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	N/A
I am familiar with my local fertilizer ordinance.	3 1.4%	14 6.6%	28 13.1%	103 48.4%	61 28.6%	4 1.9%
I adhere to my local fertilizer ordinance.	2 0.9%	6 2.8%	25 11.7%	88 41.3%	75 35.2%	17 8.0%
I believe fertilizer ordinances have a positive impact on the environment.	3 1.4%	7 3.3%	26 12.2%	88 41.3%	87 40.8%	2 0.9%
I understand the purpose of fertilizer ordinances.	5 2.4%	6 2.8%	18 8.5%	90 42.3%	91 42.7%	3 1.4%
I make an effort to stay informed about the specific guidelines outlined in fertilizer ordinances.	5 2.4%	9 4.2%	39 18.4%	86 40.6%	68 32.1%	6 2.4%
I believe that following fertilizer ordinances help the environment.	6 2.8%	5 2.3%	19 8.9%	84 39.4%	96 45.1%	3 1.4%
I have modified my lawn care practices to comply with local fertilizer ordinances.	5 2.4%	4 1.9	28 13.2	81 38.2	58 27.4	37 17.4%
I think that the government should provide more information and education on fertilizer ordinances to the public.	2 0.9%	14 6.6%	35 16.4%	90 42.3%	65 30.5%	7 3.3%
I think that fertilizer retailers should provide more information and education on fertilizer ordinances to the public.	5 2.4%	7 3.3%	34 16.0%	94 44.3%	65 30.7%	8 3.8%
I support the enforcement of fertilizer ordinances.	7 3.3%	10 4.7%	26 12.3%	86 40.6%	79 37.3%	5 2.4%

I have sought information or resources to help me better understand and follow fertilizer ordinances.	7 3.3%	16 7.5%	53 24.9%	74 34.7%	47 22.1%	16 7.5%
I believe that community awareness and adherence to fertilizer ordinances will help the environment.	3 1.4%	4 1.9%	23 10.8%	91 42.9%	86 40.6%	6 2.8%

Figure 9. Self-reported awareness and adherence



Engagement in Extension and Information Seeking

Respondents were asked about their involvement with Extension and which sources they trust to receive information about fertilizer topics. A majority of respondents (75.5%) have never visited their local Extension office.

Table 12. Interaction with Cooperative Extension

Variable	*n* (%)
Frequency of office visits	
Never	701 (75.5)
Less than once a month	148 (15.9)
1-3 times a month	40 (4.3)
Once a week	25 (2.7)
2-3 times a week	12 (1.3)
3 or more times a week	3 (0.3)

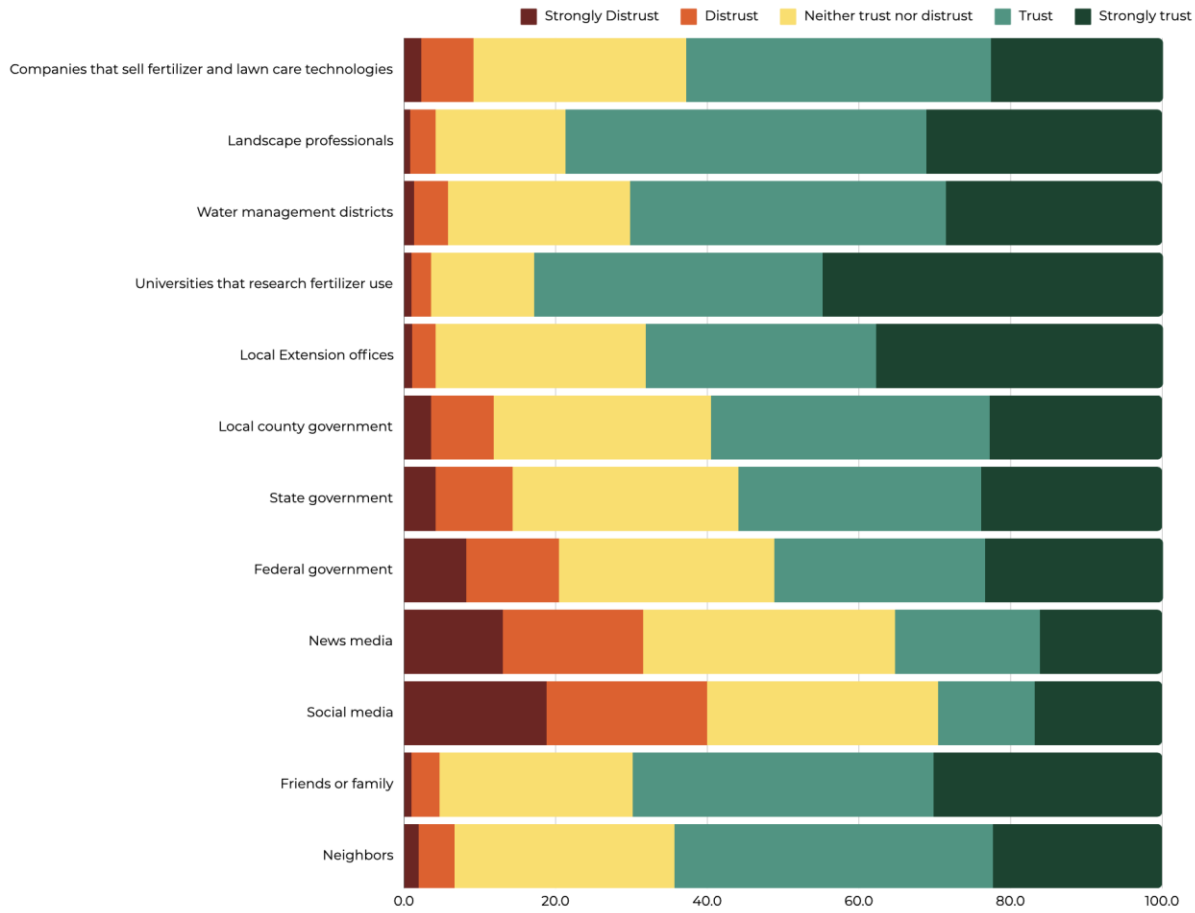
To rank trusted sources related to fertilizer topics, “somewhat trust” and “strongly trust” determine trust, and “somewhat distrust” and “strongly distrust” determine distrust. The highest ranked sources of trust were universities (82.9% trust), landscape professionals (78.7% trust), and friends or family (69.8% trust). The most distrusted sources

related to fertilizer topics included social media (40% distrust), news media (31.5% distrust), and the federal government (20.4% distrust). These data are displayed through Table 13 and Figure 10.

Table 13. Trusted sources of information related to fertilizer topics

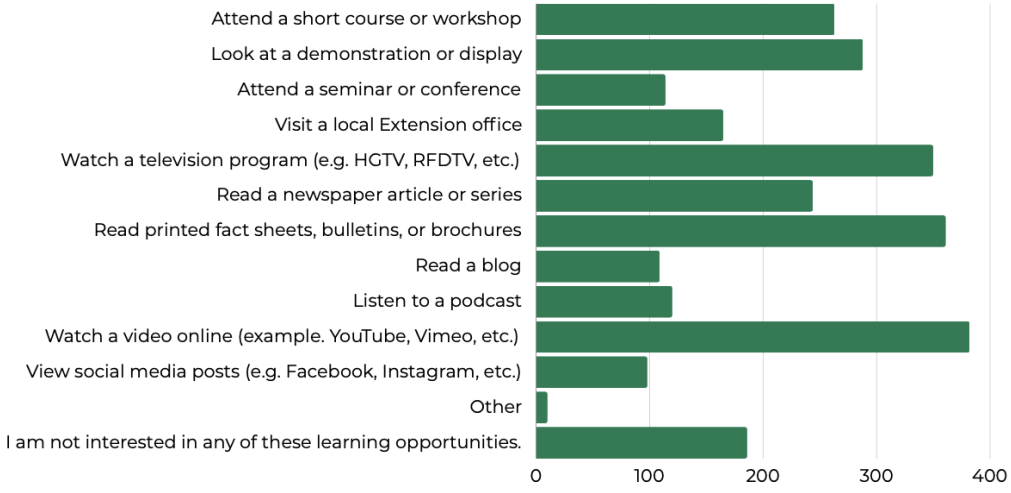
Prompt	Strongly distrust	Somewhat distrust	Neither trust nor distrust	Somewhat trust	Strongly trust
Companies that sell fertilizer and lawn care technologies	21 2.3%	64 6.9%	260 28.0%	373 40.2%	211 22.7%
Landscape professionals	7 0.8%	32 3.4%	159 17.1%	442 47.6%	289 31.1%
Water management districts	12 1.3%	42 4.5%	223 24.0%	387 41.7%	265 28.5%
Universities that research fertilizer use	9 1.0%	24 2.6%	126 13.6%	353 38.0%	417 44.9%
Local Extension offices	10 1.1%	29 3.1%	257 27.7%	282 30.4%	351 37.8%
Local county government agencies	33 3.6%	76 8.2%	267 28.7%	341 36.7%	212 22.8%
State government agencies	39 4.2%	94 10.1%	277 29.8%	297 32.0%	222 23.9%
Federal government agencies	76 8.2%	113 12.2%	264 28.4%	258 27.8%	218 23.5%
News media	121 13.0%	172 18.5%	309 33.3%	177 19.1%	150 16.1%
Social media	175 18.8%	197 21.2%	282 30.4%	119 12.8%	156 16.8%
Friends or family	9 1.0%	34 3.7%	237 25.5%	368 39.6%	281 30.2%
Neighbors	18 1.9%	45 4.8%	269 29.0%	390 42.0%	207 22.3%

Figure 10. Trusted sources of information related to fertilizer topics



When asked to select which learning opportunities related to fertilizer education they would most likely take part in, respondents selected online videos (*n* = 382), printed fact sheets, bulletins, and brochures (*n* = 361), and television programs at the highest frequency. Respondents were least likely to seek social media (*n* = 98), read blogs (*n* = 109), and attend seminars or conferences (*n* = 114) to learn more about fertilizer topics.

Figure 11. Ideal learning opportunities related to fertilizer topics



Recommendations

Based on the findings of the survey, there are several informed recommendations to help industry professionals, educators, and policy makers bridge public knowledge gaps. The most notable finding was the lack of awareness surrounding residential fertilizer ordinances. Roughly 60% (*n* = 563) were unsure if they resided within the limits of a residential fertilizer ordinance, meaning their current fertilizer practices may not align with local policies unknowingly. Local officials, educators, and industry professionals should approach this gap in knowledge by implementing an awareness campaign and learning opportunities. By increasing the visibility of residential fertilizer ordinance guidelines, the public will be better informed on fertilizer decision-making and adhering to local policy.

Cooperative Extension already provides programming on fertilizer use. However, a majority of respondents rarely or never visit their local Extension office. Findings suggest that respondents trust universities and Extension, and identified demonstrations, workshops, and short courses as ideal learning opportunities related to fertilizer topics. It is recommended that university specialists, as well as county Extension personnel, work together to deliver accessible fertilizer education. This will aid the public in recognizing the connection between the two entities while also bridging knowledge gaps identified in this study.

As a continuation onto the previous recommendation for Cooperative Extension, most respondents in this study do not have their soil tested and, likewise, do not base their fertilizer practices on soil test results. Soil testing is available through every county Extension office, as well as through private companies and other entities across the state. Soil testing is accessible, yet the public is not utilizing this service. It is recommended that Extension professionals better promote this service and the benefits of connecting soil test results with fertilizer behaviors.

Most respondents reported fertilizing during specific parts of the year, with a majority fertilizing in March, April, and September. University subject matter experts should communicate research findings that designate ideal fertilization timeframes, taking environmental factors and best management practices into account. This research focus may also help unify local fertilizer ordinances into one specific timeframe, limiting the confusion and crossover between areas.

It is recommended that target audiences utilize the toolkit developed from this study to better inform the public on fertilizer policy and behaviors. Future application of this study would be beneficial to note changes in knowledge and behaviors over time or during a period of policy change.

Limitations

This study has limitations that should be considered. The first being that the respondent sample size cannot be generalized to the population of Florida entirely. With the strict screening requirements to participate in the study and the parameters of securing a Qualtrics panel, diversity among respondents was limited. To participate, respondents were required to be an adult Florida resident with a lawn that is fertilized. This criteria affected the demographics of respondents.

Another limitation with this study is the vast differences among counties and municipalities. Florida is a diverse state with varying climate and landscaping preferences. Findings have been summarized as a group; it may be enlightening to conduct this study among individual counties to better guage the counties' culture surrounding fertilizer use.

Conclusion

The results of this study indicated that respondents are willing to learn more about residential fertilizer use and ordinances. Despite lacking awareness, most respondents had positive views on residential fertilizer ordinances and future implementation. Subject matter experts, policy makers, and community leaders have an opportunity to utilize these findings to better inform the public on fertilizer policy and recommendations.